

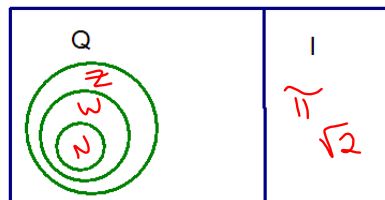
1.3-1.5 Notes (not in summer packet)

Symbols for Number Sets

Real \mathbb{R}
 Rational \mathbb{Q}
 Irrational \mathbb{I}
 Integer \mathbb{Z} or \mathbb{J}
 Whole \mathbb{W}
 Natural \mathbb{N}

Complete the Venn diagram:
 numbers, \mathbb{R} .

The rectangle represents all real numbers, \mathbb{R} .

More Properties

Reflexive

$a \in \mathbb{R}$
 For any \mathbb{R} a , $a = a$

Symmetric

$a, b \in \mathbb{R}$ If $a = b$, then $b = a$

Transitive

$a, b, c \in \mathbb{R}$ If $a = b$ and $b = c$,
 then $a = c$

More Properties

Substitution

If $a = b$, then you can replace a with b or b with a

Addition

ex: $3x + 5x = 16$

Subtraction

$8x = 16$ Subst.

Multiplication

ex: $8x = 16$

Division

$x = 2$ Division

Solve for the indicated variable.

$$F = \frac{mv^2}{r} \quad \text{for } m$$

$$Fr = mv^2$$

$$\boxed{\frac{Fr}{v^2} = m}$$

Solve for l.

$$A = lwh + lw^2$$

$$A = l \cdot (wh + w^2) \quad \text{Factor}$$

$$\frac{A}{wh + w^2} = l$$

$$\frac{S}{r-1} = \frac{rl-a}{r-1} \quad \text{for } r$$

$$S(r-1) = rl - a$$

$$Sr - S = rl - a$$

$$Sr - rl = S - a$$

$$r(S-l) = S-a$$

$$r = \frac{S-a}{S-l}$$

39.

$$5x < 35$$

$$x < 7$$

Set builder

$$\{x \mid x < 7\}$$

Interval Notation

$$(-\infty, 7)$$

$$(-\infty, 7]$$

$$x \leq 7$$

() open

[] closed

$$(-\infty, +\infty) \leftarrow \mathbb{R}$$

$$[8, +\infty)$$

$$x \geq 8$$

Notation

set-builder notation

interval notation

Do: Graph and Notations

$$1. 12 \geq -3p \quad p \geq -4$$

$$\{p \mid p \geq -4\}$$

$$2. -x > \frac{x-7}{2}$$

$$[-4, +\infty)$$

$$3. x + 5 < x - 3$$